

# CALFED BAY-DELTA PROGRAM

## STORAGE PROGRAM PROGRAM PLAN YEAR 8 (STATE FY 2007-2008; FEDERAL FY 2008)

### IMPLEMENTING AGENCIES:

Department of Water Resources  
United States Bureau of Reclamation

June 15, 2007



# Introduction

This Storage Program Plan identifies the CALFED Program activities that are scheduled to be completed during Year 8, which includes State Fiscal Year (FY) 2007-2008 (July 1, 2007 to June 30, 2008) and Federal FY 2008 (October 1, 2007 to September 30, 2008). The Plan also describes the accomplishments made during the previous year.

## Priorities

The goal of the Storage Program is to increase water supply reliability, improve water quality, and support ecosystem restoration through expanded storage capacity and increased operational flexibility.

The CALFED Record of Decision (ROD) identified commitments to be met for surface and groundwater storage. Each of these commitments is being assessed individually as well as in coordination with one another to ensure consistent assumptions, review, and coordination with other CALFED Bay-Delta Program goals. DWR is working with local agencies and stakeholders to develop partnerships and provide assistance for planning and developing locally controlled and managed conjunctive use programs and projects and integrated regional water management.

The ROD commitments fall into two broad categories: surface storage and groundwater storage/conjunctive management. In year 8 of the CALFED program these commitments for surface storage and for groundwater storage/conjunctive management are:

- **Surface Storage priorities include: 1) priorities common to all surface storage projects, and 2) project specific priorities.**

**Common Priorities** -- Priorities common to all surface storage projects include a few key steps. During these steps the projects will:

Continue to advance the feasibility study process. Complete the initial stages of the planning process for surface storage projects in order to: 1) identify alternative plans for potential projects; and 2) narrow the range of alternative plans with the highest National and State economic benefits to move forward to the final stages of the process (e.g., draft and final feasibility report, environmental documentation, and financial analysis).

Advancing the process will require working directly with potential participants to assess their needs and interests in specific surface storage projects, defining specific project alternatives that meet the needs of Federal, State, and local participants, and identifying specific public benefits that will be evaluated in more detailed studies. Through the feasibility study process, and particularly through the Common Assumptions effort described below, the Surface Storage program will examine opportunities to meet the goals and objectives of multiple CALFED programs.

Performance measures will be developed. The performance measures will be used to assess progress toward Program goals.

**Surface Storage Project Specific Priorities** -- Project specific priorities include:

**Shasta Lake Enlargement** - Reclamation is continuing with the feasibility study and National Environmental Policy Act (NEPA) process for the Shasta Lake Water Resources Investigation (SLWRI). Primary objectives are to increase water supplies and water supply reliability and increase survival of anadromous fish populations in the Sacramento River. The Study Team continues refinement and evaluation of project alternatives, environmental and economic studies, cost and benefit analysis, potential effects and mitigation strategies, and systems modeling to evaluate potential storage, operations, and conjunctive management actions. Reclamation will prepare a Draft Feasibility Report and Environmental Impact Statement (FR/EIS) to document the planning process, refinement, evaluation, and comparison of alternatives, and rationale for selection of a recommended plan. The FR/EIS will document Reclamation's findings on the potential environmental effects on the McCloud River associated with a potential Shasta Dam raise and reservoir expansion.

**Los Vaqueros Reservoir Expansion** - Reclamation and Contra Costa Water District are continuing with the feasibility study and NEPA /California Environmental Quality Act (CEQA) process for the LVE Investigation for the potential expansion of Los Vaqueros Reservoir. The primary planning objectives are regional water quality and supply reliability needs. The Study Team has focused on refining and screening an array of alternative plans for evaluation comparison in the FR and Environmental Impact Statement/Environmental Impact Report (EIS/EIR); completed baseline habitat evaluation; and initiated analysis of the mitigation areas and conveyance routes. The Feasibility Report and EIS/EIR will document the planning process, refinement, evaluation, and comparison of alternatives, and rationale for selection of a recommended plan

**North-of-the-Delta Offstream Storage** - Reclamation and DWR are continuing with the feasibility study and National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) process for the NODOS Investigation. Primary planning objectives are to improve water supply reliability in the Sacramento Valley, the Central Valley Project (CVP) and State Water Project (SWP) systems, provide storage for environmental water for Delta-related fish protection, improve Delta water quality, improve Sacramento River flows during critical fish migration periods, restore riparian habitat, and provide water supply to wildlife refuges. The Study Team continues to refine the alternatives and evaluations of potential costs, benefits, and environmental impacts. A plan formulation report, due in Fall 2007, will focus on development and analysis of preliminary alternatives and identify the final array of alternatives that will be carried forward into the feasibility study. The Feasibility Report and EIS/EIR will document the planning process, refinement, evaluation, and comparison of alternatives, and rationale for selection of a recommended plan.

**Upper San Joaquin River Storage** - Reclamation and DWR are continuing with the feasibility study and NEPA/CEQA process for the Upper San Joaquin River Basin Storage Investigation to address alternative plans for additional San Joaquin River water supply. The Study Team will continue to refine, evaluate, and compare alternative plans; assess potential costs, benefits, and environmental impacts; and develop a preliminary cost allocation. An interim plan was developed to revise study assumptions and scope following the San Joaquin River Settlement. A Plan Formulation Report, scheduled for Summer 2007 will describe refinement of final alternative plans and their development, evaluation, and comparison; and will provide details on potential costs, benefits, and environmental effects. The Feasibility Report and EIS/EIR will document the planning process, refinement, evaluation, and comparison of alternatives, and rationale for selection of a recommended plan.

**San Luis Reservoir Low Point Project** -- Reclamation and DWR are continuing with a Feasibility Study, and associated environmental analyses for the San Luis Reservoir Low Point Project in coordination with Santa Clara Valley Water District (SCVWD). The objective of the study is to optimize water supply benefits of San Luis Reservoir while avoiding additional risks to water users. The alternatives include modifying operations and/or construction of new conveyance or storage features. An Appraisal Study was completed in 2006 to identify preliminary alternatives that would provide a federal interest for the project. The study identified initial alternatives for increasing reliability in the delivery of contract water from the San Luis Reservoir to the San Felipe Division of the Central Valley Project (CVP), and other member agencies of the San Luis Delta Mendota Water Authority (SLDMWA). An Initial Alternatives Information Report (IAIR) was completed in April 2007 to identify preliminary alternatives and document resource issues, opportunities, objectives, criteria and constraints.

- **Groundwater Conjunctive Management Priorities include Projects with Total Capacity of 500 TAF to 1 MAF.**

The ROD target is to facilitate and fund locally supported, managed, and controlled groundwater and conjunctive use projects with a total of 500 TAF to 1 MAF of additional storage capacity by 2007. Progress toward this target is being assessed in terms of the capacity to deliver additional water with new projects, facilities, and operations, rather than just available storage. This is thought to be a better measure of the improvement in water supply reliability. Actions for Year 8 include completing implementation of the most promising projects and aggressively pursuing implementation of additional projects initiated in Stage 1.

The ROD also identified the need for improving the effectiveness of groundwater management throughout the state. Effective monitoring and institutional structures are critical to the success of local and regional conjunctive management projects, as well as to other CALFED programs, such as water transfers and EWA. Passage of SB 1938 in 2002 provided new requirements for groundwater management plans (GMPs), and made the award of grant funding contingent on compliance. This incentive has led to the development or update of many GMPs in the state.

In developing regional conjunctive management projects local agencies are considering proposals that will provide multiple project benefits.

**Common Assumptions** - Because of the complexity of the CALFED Water Storage Program, Reclamation and DWR have established Common Assumptions about existing and reasonably future conditions as a basis for the CALFED water storage and conveyance feasibility studies and associated model studies. For the purposes of this program plan, the Common Assumptions effort is discussed as a project under the Surface Storage Accomplishments and Activities sections.

A Common Model Package (CMP) is being refined to characterize and quantify pertinent water management actions in California, which includes several different models integrating assumptions about water management actions such as water transfers, agricultural and urban water use and conservation, local projects, ground water and surface storage conjunctive use, recycling, environmental water operations, and potential CALFED ROD actions. The common assumptions process and framework also include establishment of coordinated strategic planning, policy, and management; as well as associated tools and methods for hydrologic and economic analyses, cumulative analyses, and use of common reporting metrics for potential effects (impacts and benefits), protocols, and quality control measures.

# Accomplishments

Improvements in surface storage, groundwater management and construction of conjunctive use projects will benefit water supply reliability, the Environmental Water Account, ecosystem restoration, water transfers, and other CALFED programs.

Specific project accomplishments include:

## **Surface Storage**

### **Shasta Lake Enlargement -**

Completed and released the Plan Formulation Report in Spring 2007.

Completed field surveys and established for Habitat Evaluation Procedures (HEP).

Continued Section 106 Process (e.g., inventory of cultural resources, ethnographic studies) and tribal consultation on cultural issues of concern.

### **Los Vaqueros Reservoir Expansion -**

Completed an Initial Economic Evaluation for Plan Formulation in Summer 2006.

Completed and released the Environmental Scoping Report in Summer 2007.

### **North-of-the-Delta Offstream Storage -**

Completed an Initial Alternatives Information Report in May 2006.

Completed a Plan Formulation Report in Fall 2007.

Completed a Draft Sacramento River Flow Regime Status Report and Evaluation in \_\_\_\_\_2007.

Reclamation completed development of predictive models to evaluate potential effects on geomorphology and physical processes of Sacramento River from NODOS operational alternatives in 2007.

Continued Section 106 Process (e.g., inventory of cultural resources, ethnographic studies) and tribal consultation on cultural issues of concern.

### **Upper San Joaquin River Storage -**

Completed baseline vegetation mapping of each potential reservoir site.

Completed a Cultural Resources Alternatives Assessment for Plan Formulation phase of study.

Completed the Native American Background Research for Plan Formulation Report.

Completed operations modeling, designs and cost estimates in support of Plan Formulation Report.

Completed a geologic drilling and materials investigation program in November 2006.

Public meetings were held in Fresno in May 2006 on the geologic drilling program. A tribal meeting was held in March 2006 to initiate the Section 106 process with the tribes. Several tribal tours of the drilling locations were held in the summer of 2006. A winter newsletter was distributed in March 2006.

### **San Luis Reservoir Low Point Project --**

Completed an Appraisal Study in May 2006.

Developed and initiated the Plan of Study in April 2006.

Continued feasibility study, public involvement, and outreach activities with stakeholders.

### **Common Assumptions -**

Continued development of the Common Model Package (CMP), including CALSIM-II, DSM2, LCPSIM, CVPM, Sacramento River Temperature Model, State Water Project/Central Valley Project Power Modules, and a framework for integration of the models.

Updated and clarified assumptions such as implementation of other water management options (agricultural and urban water use conservation, water transfers, conjunctive use, recycling, desalination, and other local projects) in the future No-Action Alternative.

## **Groundwater Storage/Conjunctive Water Management**

Improvements in groundwater management and construction of conjunctive use projects will benefit water supply reliability, the Environmental Water Account, ecosystem restoration, water transfers, and other CALFED programs.

Performance measures will be developed and used to assess progress toward Program goals.

Specific project accomplishments include:

### **Feasibility Study Grants –**

Administered and provided oversight on previously funded Feasibility Study grants. A total of 129 Local Groundwater Management Assistance Act (AB 303) grants have been awarded funding and 113 are complete as of Year 7. A total of 28 feasibility studies/pilot projects were funded under Proposition 13, and 20 of the 28 projects are complete as of Year 7.

### **Technical Assistance to Locals –**

Provided technical and financial assistance to existing local MOU agency partnerships to study the groundwater basins and assess opportunities for conjunctive and integrated regional water management.

Provided technical and financial assistance to local partners for assessing in-basin needs, project formulation, and commencement of pilot projects. Work continued to expand partnerships regionally and integrate additional water management elements into the planning process.

Provided technical and financial assistance to local partners for developing groundwater management plans to comply with SB 1938. To track progress in groundwater management, the number and location of

GMPs throughout the state are being tracked; however, this is an imperfect measurement since local agencies are not required to submit the plans to DWR.

Provided independent facilitation/mediation services to local partners for improving stakeholder involvement, fostering local support for improved groundwater management, and for enhancing stakeholder understanding of local and regional water resource issues and needs.

#### **Implementation Grants and Loans –**

Provided oversight on the implementation of previously funded groundwater storage construction grants and loans. A total of 32 projects, having an estimated total projected capacity of over 300 TAF, have been awarded funding under Proposition 13 and 7 of the projects funded in the three cycles were completed by Year 7.

## **Activity**

### **Surface Storage**

The storage projects within the surface storage program are linked and coordinated through the Common Assumptions effort and regular interactions between the project teams at DWR and Reclamation. Specific Surface Storage program activities are discussed below.

#### **In-Delta Storage –**

In-Delta Storage activities are suspended pending future funding. In May 2006, DWR completed the “2006 Supplemental Report to 2004 Draft State Feasibility Study In-Delta Storage Project”, and recommends that further detailed study of the In-Delta Storage project be suspended until a proposal is submitted by potential participants detailing their specific interests, needs and objectives that support reinstitution. Limited economic study and operations modeling will continue through the Common Assumptions effort.

#### **Shasta Lake Enlargement –**

- Complete biological and physical surveys for environmental documentation.
- Continue Section 106 Process (cultural resources inventory, ethnographic studies, tribal consultation).
- Complete feasibility level engineering designs and cost estimates on dam, appurtenant structures, and relocations.
- Formulate, evaluate and compare alternatives using criteria consistent with Federal Principles and Guidelines and policies and performance measures to meet project objectives.
- Continue feasibility study activities leading to development of FR/EIS in Winter 2007 – 2008, and Final FR/EIS in September 2008.

**Funding:** \$3.0 million proposed in President's FY 2008 Budget.

**Schedule:** Complete Draft FR/EIS in Winter 2007 - 2008

Complete Final FR/EIS Late 2008


Publish ROD in Late 2008

Detailed Design, Plans, Specifications and Permits Phase through Winter 2010

**Public Involvement and Outreach:** Continue public, tribal, and stakeholder coordination and outreach.

**Los Vaqueros Reservoir Expansion –**

- Complete biological and physical surveys for environmental documentation.
- Identify mitigation properties and costs.
- Continue Section 106 Process. Complete record search and continue ethnographic studies.
- Complete feasibility level engineering designs and cost estimates on dam, appurtenant structures, and relocations.
- Formulate, evaluate and compare alternatives using criteria consistent with Federal Principles and Guidelines and policies and performance measures to meet project objectives.
- Continue public and stakeholder coordination and outreach.

**Funding:** \$1.0 million Prop 50; \$0.8 million Prop 84; (No funding in FY 2008 President's Budget for Reclamation). 

**Schedule:** Complete Draft Feasibility Report and environmental documentation in March 2008.  
Complete Final Feasibility Report and final environmental documentation in February 2009.

**Public Involvement and Outreach:** Ongoing.

**North-of-the-Delta Offstream Storage –**

- Complete biological and physical surveys for environmental documentation.
- Refine alternative plans and related mitigation actions and costs.
- Continue Section 106 Process (e.g., inventory of cultural resources, ethnographic studies) and tribal consultation on cultural issues of concern
- Complete feasibility level engineering designs and cost estimates.
- Formulate, evaluate and compare alternatives using criteria consistent with Federal Principles and Guidelines and policies and performance measures to meet project objectives.
- Continue public and stakeholder coordination and outreach.
- Apply Reclamation's suite of predictive models to measure the effects of geomorphology and physical river processes on NODOS alternative operations.

**Funding:** \$1.3 million Prop 50; \$3.4 Prop 84; \$3.0 million proposed in President's FY 2008 Budget for Reclamation.

**Schedule:** Complete Plan Formulation Report in Fall 2007.  
Complete Draft Feasibility Report and EIS/EIR (NEPA/CEQA documents) in Spring 2008.  
Complete Final Feasibility Report and EIS/EIR in Winter 2008--2009.

**Public Involvement and Outreach:** Ongoing.

**Upper San Joaquin River Storage –**



- Continue planning activities leading to development of the Plan Formulation Report, and the draft Feasibility Report and draft EIS/EIR. The Plan Formulation Report and the Feasibility Report will address the inclusion of the San Joaquin River Settlement in the without project condition.
- Water Operations – further development on potential uses of new water supplies and identifying project benefits, including potential contributions to San Joaquin River restoration, improving San Joaquin River water quality, and facilitating conjunctive management and water exchanges that provide high-quality water to urban communities.
- Environmental Resources – identify how aquatic, botanic, wildlife, cultural, historic, and archeological resources in and around the potential reservoir area would be affected by the alternatives. The vegetation mapping will be refined in the spring of 2007. Surveys for sensitive species will be conducted in the spring and summer of 2007. USFWS will complete the baseline Habitat Evaluation Procedure in summer 2007.
- Economics – identify monetary benefits related to changes in water delivery, groundwater pumping, water quality, flood damage reduction, hydropower generation, and recreation.
- Groundwater Storage and Conjunctive Management – additional work is needed to develop specific conjunctive management and groundwater storage measures for inclusion in Investigation alternatives. Specific projects identified in a Conjunctive Management Opportunities Study, currently being completed by DWR, will be evaluated for inclusion in the Investigation.

**Funding:** \$1.0 million Prop 50; \$1.8 million Prop 84; \$2.5 million proposed in President's FY 2008 Budget for Reclamation.

**Schedule:** Complete Plan Formulation Report in Summer 2007.

Complete Draft Feasibility Study Report and draft environmental documentation in Summer 2008

Complete Final Feasibility Study Report and final environmental documentation in Summer 2009

**Public Involvement and Outreach:** Ongoing.

#### **San Luis Reservoir Low Point Project –**

- Continuing the feasibility study, development and evaluation of alternative plans, evaluation potential effects, costs, and benefits.

**Funding:** \$1.4 million proposed in President's FY 2008 Budget for Reclamation.

**Schedule:** Complete the Initial Alternatives Information Report in April 2007.

Complete the Plan Formulation Report in December 2007.

Complete the Draft Feasibility Study Report and draft environmental documentation in November 2008.

Complete the Final Feasibility Study Report and final environmental documentation in June 2009.

Sign the Record of Decision in September 2009.

**Public Involvement and Outreach:** Ongoing.

### **Common Assumptions –**

- The CMP model package is scheduled to be completed in the summer of 2007, and will be used to support the feasibility studies and environmental documentation for CALFED and related planning investigations.

**Funding:** \$0.5 million Prop 50; \$0.5 million proposed in FY 2008 Budget for Reclamation

**Schedule:** Complete the Feasibility Study Report Common Model Package in Summer 2007.

**Public Involvement and Outreach:** Ongoing.

## **Groundwater Storage/Conjunctive Water Management**

DWR will continue to provide assistance to local agencies for groundwater program development and conducting oversight on projects previously awarded funding through the grants and loans program. Specific program activities include:

### **Feasibility Study Grants –**

Continue to provide administration and oversight of feasibility study projects previously funded.

**Funding:** \$0

**Schedule:** N/A

**Potential Problems:** Funding has not been budgeted to DWR to provide oversight on projects previously awarded funding through the grants program. No additional feasibility study grants will be awarded. If additional funding is available, the grants program would continue to provide funding to local agencies to conduct feasibility studies.

### **Technical Assistance to Locals –**

DWR will continue to work with local agencies to develop locally controlled and managed groundwater programs. In addition, DWR will continue to provide oversight on projects awarded funding through the grants and loans program. DWR is working with local agency partners to implement SB 1938, which placed requirements on groundwater management plans, most notably, an element of integrated regional water management coordination.

**Funding:** \$1.639 million

**Schedule:** Ongoing. Under existing funding levels, DWR will provide assistance to local agencies to develop locally controlled and managed groundwater projects and programs providing local and regional benefits. DWR will work with local agencies to assist in developing more competitive proposals for future grant funding.

**Public Involvement and Outreach:** Local agency advisory groups conducting basin wide planning and developing local and regional conjunctive water management programs will generally meet monthly or quarterly, depending upon the consensus of the stakeholders. These groups will include local governments, water agencies, environmental and business interests, and other interested parties.

The local planning processes for groundwater storage include tribal representation where applicable. As an example, in the Upper San Jacinto River Basins area, planning efforts will assist in a settlement between water agencies and the Soboba Band of Mission Indians, and tribal members are involved in the advisory committees.

**Linkages with Other Elements:** The Conjunctive Water Management Program (CWMP) is funding and coordinating with the Water Science and Technology Board of the National Research Council on a study of "Sustainable Underground Storage of Recoverable Water." CWMP is awaiting completion of the Final Report, which was to be completed in Year 7 that will provide guidance to the State and local agencies in addressing scientific issues and limitations in the effective use of groundwater storage.

Groundwater Storage projects are leading to drinking water quality improvements, primarily in southern California.

Coordination with the EWA and WUE programs is ongoing with the groundwater storage programs.

#### **Implementation Grants and Loans –**

Continue to provide oversight on the implementation of previously funded groundwater storage construction grants and loans.

**Funding:** \$0

**Schedule:** Ongoing. Local agencies, with DWR oversight, are implementing the most promising projects and aggressively pursuing implementation of additional projects by the end of Stage 1.

**Public Involvement and Outreach:** Ongoing.

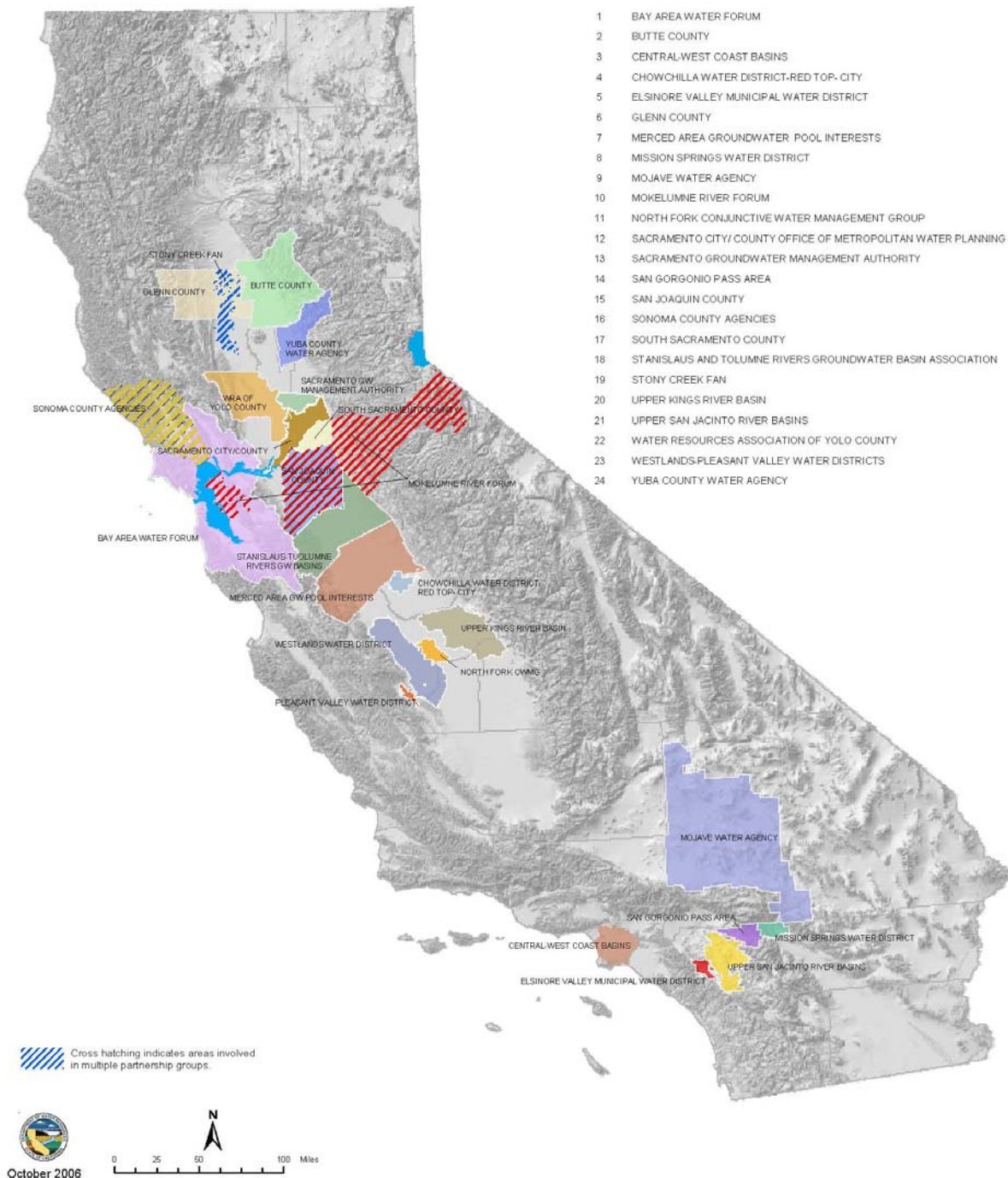
**Linkages with other Elements:** CWMP will continue to coordinate with the Science Program in developing Performance Measures to assess feasibility studies and ability to implement the project, and in determining potential benefits and beneficiaries to ensure program consistency. Performance measure standards will consider criteria for completion and conclusions of feasibility studies conducted, economic efficiency, environmental benefits provided, water produced to meet local, regional, and statewide needs, and improvements in water quality.

**Potential Problems:** If additional funding becomes available for grants and loans, the state will continue to provide funding to local agencies to construct conjunctive use projects to develop additional capacity to meet the targeted goal. Lacking such funding, the local implementation of new projects is expected to slow considerably. Full program funding will also allow DWR to continue working with local agencies to develop locally controlled and managed groundwater programs and provide oversight on projects awarded funding through the grants and loans program.

Under existing funding levels, DWR will provide assistance to local agencies for groundwater program development and conduct oversight on projects previously awarded funding through the grants and loans program. No additional grants or loans would be awarded specifically for conjunctive use facilities; however, such projects may be included in regional plans that compete for grant funding for integrated regional water management.

# Geographical Distribution of Groundwater/Conjunctive Management Activities

## Department of Water Resources Conjunctive Water Management Branch Local Agency Partnerships



# Budget

Proposed for Year 8	State	Federal
<b>Surface Storage</b>		
In-Delta Storage	\$0	\$0
Shasta Lake Enlargement	\$0	\$3.0 million
Los Vaqueros Reservoir Expansion	\$1.8 million	\$0
North-of-the-Delta Offstream Storage	\$4.7 million	\$3.0 million
Upper San Joaquin River Storage	\$2.8 million	\$2.5 million
San Luis Reservoir Low Point Project	\$0	\$1.4 million
Common Assumptions	\$0.5 million	\$0.5 million
<b>Groundwater Storage / Conjunctive Management</b>		
Feasibility Study Grants	\$0	\$0
Technical Assistance to Locals	\$1.6 million	\$0
Implementation Grants and Loans	\$0	\$0

Insert Schedule